



WEB OF SCIENCE

THE ADVANTAGES OF SIMULTANEOUS INFRARED LIGHT THERAPY - PHYSIOTHERAPY EXERCISES IN REHABILITATION OF POST TRAUMATIC HAND

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Abstract

Introduction. Post-traumatic hand rehabilitation is a priority for physiotherapists and medical doctors, due to the complexity of the anatomical structures of the forearm, fist and fingers. The urgent need to use the hand by the patient, stimulates us to find adequate recovery methods that shorten the recovery time. The most common hand injuries are fractures (radius, followed by metacarpal bones and phalanges). Restoring hand function involves increasing the mobility, prehension, opposability of the fingers, and pluri-digital grips and muscle strength. Pain and stiffness in passive and active mobilization is the main impediment, limiting the patient's ability to sustain a fast and effective program of physiotherapy exercises. In classical physiotherapy, protocols do not include simultaneous forms of therapy, which could make it easier to perform the exercises, losing important time. A protocol of simultaneous exercise - infrared therapy has been proposed to improve the post-traumatic hand recovery process.

Material and method. The study was carried out on 4 months' time period in the Piatra Neamț Micromedica Clinic on a group of 34 patients diagnosed with distal epiphyseal fracture of radius, aged 43-62 years. The study aimed to assess the level of pain reduction, as well the increase of the function of the hand, after the sessions of physical therapy. The patients were radiologically confirmed, and they came to the physiotherapy quite quickly after the gypsum was removed. For the evaluation of function goniometry and functional tests were used. For pain assessment the VAS scale was used, and all the measurement methods was made at the beginning and at the end of the physical therapy treatment. Patients underwent a physical therapy treatment complex consisting of TENS, ultrasound, infrared, passive and active exercises, for 15 consecutive days.

Results. The initial evaluation, was followed by another one at the end of the 15-session treatment. The obtained results were analyzed in terms of two indicators: VAS scale for pain intensity and functional tests (prehension, fingers opposability, bi-digital and tri-digital grips and muscle strength). After the completion of the 15 sessions treatment, the group of patients with infrared therapy showed substantial clinical improvements.

Conclusions. Following the analysis of pain and function, we can say that the physical therapy exercises and simultaneous infrared therapy reduced the symptoms and improved the function of the hand.

Key words: *hand rehab, infrared therapy, physiotherapy exercise, simultaneous therapy*